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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,922	03/18/2004	Fumiya Adachi	M1071.1900	5424

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT PAPER NUMBER

1775

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,922

Applicant(s)

ADACHI, FUMIYA

Examiner

Cathy Lam

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03-18-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 112

1. Claims 4, 9, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 4 and 9, alumina (or Al_2O_3) and amorphous silicon (or SiO_2) are included in the glass frit composition. It is inconsistent as to how one could have used less than 2 wt% of alumina and/or amorphous silica, when the glass frit contains a minimum of 3 wt% of Al_2O_3 and 2-15 wt% amorphous silicon (see claim 2).

In claim 13, applicant in the specification discloses that the resistance adjuster is metal such as Ni, Al, Sn, Pb, Pt, Pd or their oxides. It is indefinite as to whether or not the conductive component which can be Pt and/or Pd have already included the resistance adjuster. Similarly, the glass frit that includes Al_2O_3 has a built in resistance adjuster.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al (US 5378408) in view of Tanigami et al (US 5470506).

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Carroll teaches a thick film paste composition that is suitable for forming conductive patterns on a rigid substrate. The paste composition is comprised of a glass composition, electrically conductive particles and an organic medium.

The glass composition is comprised of 65-95 wt% Bi_2O_3 , 0.1-9 wt% B_2O_3 , 2-15 wt% SiO_2 , 0-5 wt% Al_2O_3 and 0-20 wt% ZnO (col 2 L 64-col 3 L 2). The electrically conductive particles are metal particles selected from gold, silver, platinum, palladium or their alloys (col 4 L 25-26). The metal particles have a size normally about 0.1 μm (col 4 L 37-40). A sintering inhibitor such as rhodium can be added to the paste composition for retarding the rate of metal densification (col 5 L 26-29 & L 36).

Carroll is silent about having NiO in the glass composition, nor does it teach having any resistance adjuster in the paste composition. The examiner is taking the position that the conductive particles such as platinum and palladium used in the thick film paste composition, are the build in resistance adjusters.

Tanigami teaches a heat generating composition comprised of electrically conductive powder, a glass frit and a vehicle.

The heat-generating composition is used as a heater and printed next to a glass substrate (2) (col 2 L 56-68). The composition comprises a molybdenum silicide. The heat generating composition further comprises at least one metal powder and/or metal oxide powder such as silver and nickel oxide (col 4 L 48-55).

Tanigami is silent about the amount of the NiO and MoSi_2 added to the heat generating composition.

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In view of the prior art teachings, one skill in the art would include MoSi_2 and NiO in an optimal amount because such findings are well within routine experimentations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538.

The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
March 24, 2005